

Supplementary A: Further information about the recoding of four smaller districts

The settlement structure of the Main-Tauber district was changed from 4 to 3; furthermore, the quintiles of the GIMD 2010 had to be changed in the districts of Neumünster (from Q5 to Q4), Saarlouis (from Q3 to Q2) and St Wendel (from Q1 to Q2). These changes should not have any significant impact on the analysis as the proportion of these districts has no relevant weight in the sample.

Supplementary B: Results of the ordered logistic regression: effects of individual and area factors on worse GP accessibility (> 20 min.)

	Model (n=19 638)	
	OR	95% CI
Sex [female]	1.01	0.96–1.07
Age [ref=young (age<40 years)]		
middle (40–64 years)	1.07	1.00–1.15
old (age>64 years)	1.18	1.08–1.28
Area deprivation GIMD 2010 [ref=Q1, least deprived]		
Q2	1.27	1.17–1.38
Q3	1.42	1.31–1.55
Q4	1.29	1.18–1.41
Q5 (most deprived)	1.45	1.33–1.58
Settlement structure [ref=1 city]		
2 urban district	1.84	1.71–1.99
3 rural district with population concentration	2.22	2.05–2.39
4 rural district	2.75	2.53–3.00
Children in household [yes]	0.92	0.86–0.98
German [no]	0.74	0.66–0.84
Equivalent household disposable income [ref=Q1 high; >€32 564]		
Q2 (>€24 031–32 564)	1.00	0.93–1.09
Q3 (>€18 552–24 031)	1.04	0.95–1.13
Q4 (>€13 829–18 552)	0.90	0.82–0.98
Q5 (low; ≤€13 829)	0.85	0.77–0.93
Education [ref=less than high school]		
high school	1.03	0.96–1.12
more than high school	0.97	0.88–1.07
Health status [ref=very good]		
good	1.18	1.07–1.31
satisfactory	1.31	1.17–1.47
poor	1.41	1.24–1.61
bad	1.45	1.21–1.75
Number of morbidities	1.04	1.01–1.07
Concerns about own health [ref=not concerned at all]		
somewhat concerned	0.98	0.92–1.05
very concerned	0.96	0.87–1.05
Type of health insurance [private health insurance]	1.00	0.92–1.08
Max re-scaled R² (percentage)		5.61

OR (odds ratio) in **bold**=statistically significant at 5% level; CI=confidence interval; []=category tested in a dichotomous variable; [ref=] reference category for more than two characteristics; Q=quintile.

Missing values in total: education (n=856), health status (n=42), concerns about own health (n=66) and type of health insurance (n=35).

Full model calculation.